

## WEST

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Feb 20, 2001

US-PAT-NO: 6190669

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TITLE: Attenuated mutants of salmonella which constitutively express the Vi antigen

DATE-ISSUED: February 20, 2001

## INVENTOR-INFORMATION:

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## PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

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1/5/98  
1/5/98  
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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>5077044</u>	December 1991	Stocker	424/92
<input type="checkbox"/> <u>5783196</u>	July 1998	Noriega	424/234.1

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ATTY-AGENT-FIRM: Sughrue, Mion, Zinn Macpeak &amp; Seas. PLLC

## ABSTRACT:

Attenuated *Salmonella* mutants which constitutively express the Vi antigen are disclosed, as well as vaccines against typhoid fever containing the same, live vector vaccines containing the same, and DNA-mediated vaccines containing the same.

23 Claims, 17 Drawing figures